

WHAT IS CLAIMED IS:

1. A motor comprising:

a stator having an iron core;

a rotor disposed in the stator;

a coil having a main-resistance coil and a sub-resistance coil, the main-resistance coil being wound around an outer portion of the iron core, the sub-resistance coil being wound around an inner portion of the iron core; and

insulating means for preventing withstand voltage which is caused by contact between the sub-resistance coil and the rotor when the sub-resistance coil expands due to an increase in temperature of the coil.

2. The motor as claimed in claim 1, wherein the insulating means comprises an insulator which is refrigerant-proof and oil-proof, the insulator being disposed between the sub-resistance coil and the rotor.

3. The motor as claimed in claim 2, wherein the insulating means further comprises a yarn for securing the insulator to the coil.

4. The motor as claimed in claim 3, wherein the yarn is made of a polyester material.

5. A motor comprising:

a stator having an iron core;

a rotor disposed in the stator;

a coil wound around the iron core of the stator; and

an insulating apparatus separating the rotor from the coil, the insulating apparatus preventing contact between the coil and the rotor when the coil expands during operation of the motor.

- 5 6. The motor as claimed in claim 5, wherein insulating apparatus comprises:
 an insulator having a cylindrical shape; and
 a yarn securing the insulator to the coil.

- 10 7. The motor as claimed in claim 6, wherein the coil includes a main-resistance
 coil and a sub-resistance coil, the sub-resistance coil being wound around an inner portion of
 the iron core of the stator, and wherein the insulator is disposed between the sub-resistance
 coil and the rotor.

- 15 8. The motor as claimed in claim 6, wherein the insulator comprises a
 refrigerant-proof and oil-proof material.

9. The motor as claimed in claim 5, wherein the yarn is made of a polyester
 material.